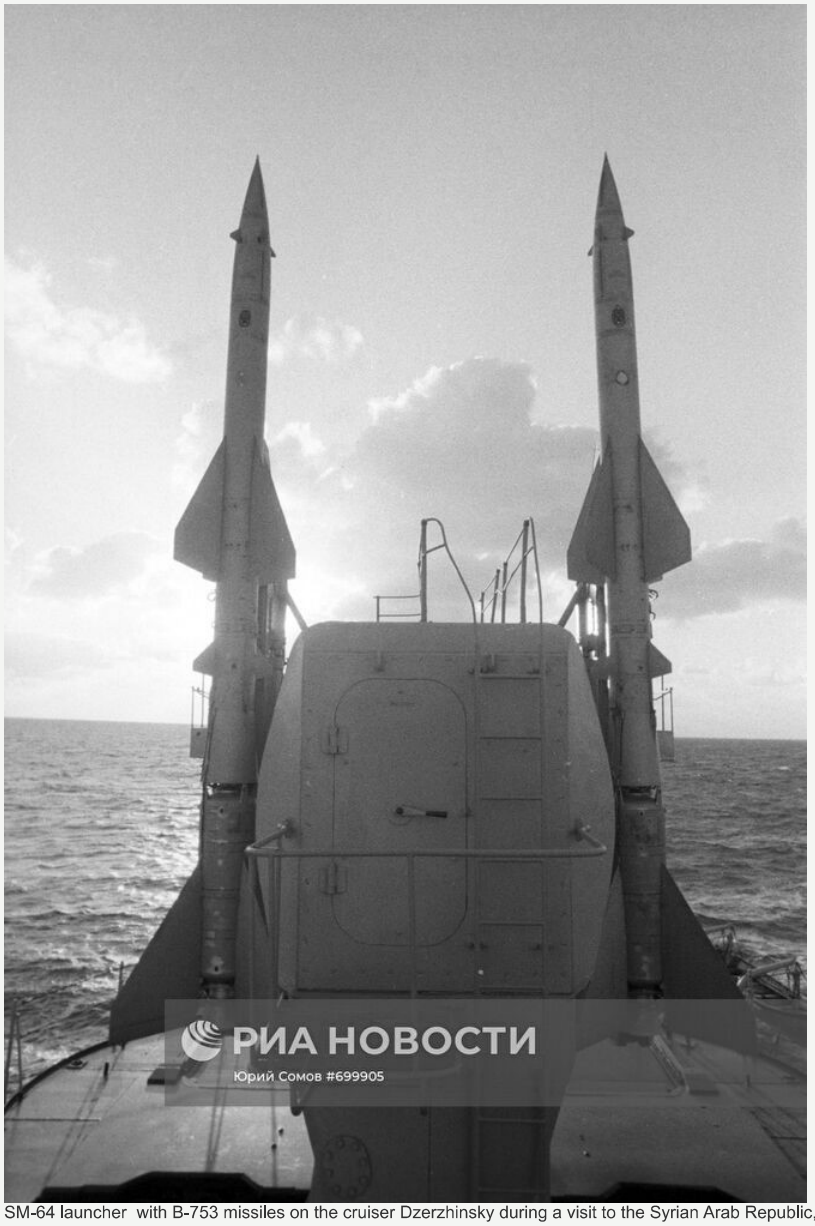
Complex M-2 "Volkhov-M" (SA-N-2 GUIDELINE)

M-2 "Volkhov-M" complex, B-753 missile - SA-N-2 GUIDELINE
M-2bis complex, B-755 missile

Naval version of the land-based S-75 (SA-2) SAM system. The S-75 system was modified for the Navy by NII-1 together with NII-49. R&D work began in 1956 to arm Project 70 cruisers. Later, the SAM system was planned to be used on various cruiser projects (not implemented). The first (and only) SAM system was installed on the ship during the reconstruction of the cruiser "Dzerzhinsky pr.68bis to pr.70E at the Sevmorzavod plant in Sevastopol from October 15, 1957 to December 24, 1958. Missile launches began in February 1958. The first missile launch was successful - an Il-28 unmanned target aircraft was shot down at an altitude of 10,000 m. The SAM system passed tests and was accepted into service on the cruiser pr.70E (December 24, 1958 or 1961 ??). By default, the data of the missiles are V-753.



SM-64 launcher with B-753 missiles on the cruiser Dzerzhinsky during a visit to the Syrian Arab Republic, 21.01.1972 (photo - Yuri Somov, RIA Novosti)

Author: DIMMI Created: 17.01.2009 03:21:49 Comments: 1 READ THE FULL ARTICLE

3K96 Redut / 3K96-2 Poliment-Redut

DATA AS OF 2017 (standard replenishment)
Complex 3K96 "Redut" / 3K96-2 "Poliment-Redut", missiles 9M96, 9M96D, 9M100
★★★

Anti-aircraft missile system with vertical launchers. The first information about the new SAM system with vertical launchers appeared after the laying of the new SRK " Novik " project 12441 "Grom" at the shipyard "Yantar" (Kaliningrad) in 1997. There was an assumption that this is a "lightweight" version of the SAM "Rif-Fort". The technical design of the SKR project 12441 was approved in 1994, based on which it can be concluded that as of 1994, the development of the SAM "Poliment" was already underway at least at the stage of a draft design. The development of the complex is being carried out by the GSKB of the air defense concern "Almaz-Antey". In its capabilities and partially in its composition, the SAM is maximally unified with the SAM "Vityaz" air defense system .

In 2009, the first stage of comprehensive preliminary testing of products within the framework of the Poliment-Redut-R R&D project was completed (Almaz-Antey Air Defense Concern, *source - Annual Report for 2009*). In 2010, Almaz-Antey Air Defense Concern continues testing components of the Poliment-

Redut ZRAS, conducts ground tests of the 9M96 missile, and manufactures prototypes of the 9M96D and 9M100 missiles (*source - Annual Report for 2010*).

In 2011, the Almaz-Antey Air Defense Concern delivered a prototype of the Redut SAM system to the first serial corvette of Project 20380 (Soobrazitelny, plant No. 1002), began joint flight tests of the ship's control system and 9M96 missiles, completed preliminary tests of the main components of the Poliment-Redut SAM system, and delivered its elements to the lead frigate of Project 22350 , Admiral of the Fleet of the Soviet Union Gorshkov. A pilot batch of .9M96D missiles was manufactured, autonomous flight tests were started in ground-based testing range conditions, and the main components of the 9M100 missile were manufactured and conducted preliminary tests (Almaz-Antey Air Defense Concern, *source: 2011 Annual Report*). In 2012, the bench testing of the on-board equipment of the 9M96D and 9M100 missiles was completed, and the first ground-based full-scale range tests of the missiles were conducted (*source - Almaz-Antey Annual Report 2012*).

On 14 May 2012, the media reported that the complex was entering the final stage of testing - launches from the standard carrier of the first serial corvette of Project 20380 into the sea - and by the end of 2012, the tests of the complex were planned to be completed. In fact, in 2012, joint flight tests of the Redut SAM system were started on the corvette of Project 20380 (*source - Almaz-Antey Annual Report 2012*). At a briefing by the General Director of the Almaz-Antey Air Defense Concern, Vladislav Menshchikov, which took place during the MAKS-2013 air show, it was reported that the tests of the air defense system were interrupted in 2012 due to a fire on the Soobrazitelny corvette, project 20380. In 2013,the ship arrived after repairs to resume SAM testing. On the lead frigate of project 22350"Admiral Gorshkov" SAM tests will begin no earlier than 2014, once the ship is ready. A set of 9M96, 9M96D and 9M100 missiles for testing from ships is ready (source).

In 2013, a prototype of the 3K96-2 SAM was delivered to the lead frigate of Project 22350 "Admiral Gorshkov", and additional ground tests of the 9M96 missile were completed (*source - Annual report of the Almaz-Antey Air Defense Concern for 2013*).

On June 2, 2014, the media reported that on May 30, 2014, the corvette "Soobrazitelny" Project 20380 of the Baltic Fleet successfully repelled an attack by a cruise missile target, which was launched from the R-257 missile boat using the "Redut" SAM. The target was destroyed. Apparently, this is the first successful use of the Redut air defense missile system from a warship.

Launch of the Redut air defense missile system during tests on May 30, 2014, Soobrazitelny corvette, Project 20380 (video frame, source).

Author: DIMMI Created: 17.01.2009 00:28:16 Comments: 55 READ THE FULL ARTICLE

Pantsir-M / Palitsa

DATA AS OF 2012 (in progress)
Complex "Pantsir-M" / "Palitsa"
Complex "Pantsir-ME" / "Pantsir-ME"

Anti-aircraft missile and artillery system. Developed by the Instrument-making Design Bureau (hereinafter referred to as KBP, Tula), the chief designer is probably Alexander Rybas. The Palitsa air defense missile and artillery system is being created using the missile and electronic components of the Pantsir-S1 air defense missile and artillery system . The air defense missile and artillery system is intended to arm ships from corvettes to cruisers. According to unconfirmed reports, work on creating a prototype has been underway since 2010. As of 2011, the system is being developed for the Russian Navy. A model of the Pantsir-ME system was shown at the IMDS-2011 maritime show in St. Petersburg, which is a Kortik-M air defense missile system with elements of the Pantsir-S1 air defense missile and artillery system radar equipment. The performance characteristics of the export modification of the air defense missile system are indicated by default.

Latest com
RPK-7 Wind -
Rishat 2025-04-0
RPK-7 Wind -
Rishat 2025-04-0
PKR Moskit
Rishat 2025-04-0
pr.11711 - IVA
Rishat 2024-09-0
pr.11711 - IVA
Rishat 2024-09-0
pr.11711 - IVA
Rishat 2024-08-2
pr.11711 - IVA
Rishat 2024-08-2
Historical pho
Rishat 2024-08-1
Historical pho
Rishat 2024-08-0
Historical pho
Rishat 2024-08-0

Model of the Pantsir-ME air defense missile system at the MVSM-2011 exhibition, St. Petersburg (photo - muxel, http://bmpd.livejournal.com).

Author: DIMMI Created: 21.06.2012 12:23:13 Comments: 2 READ THE FULL ARTICLE

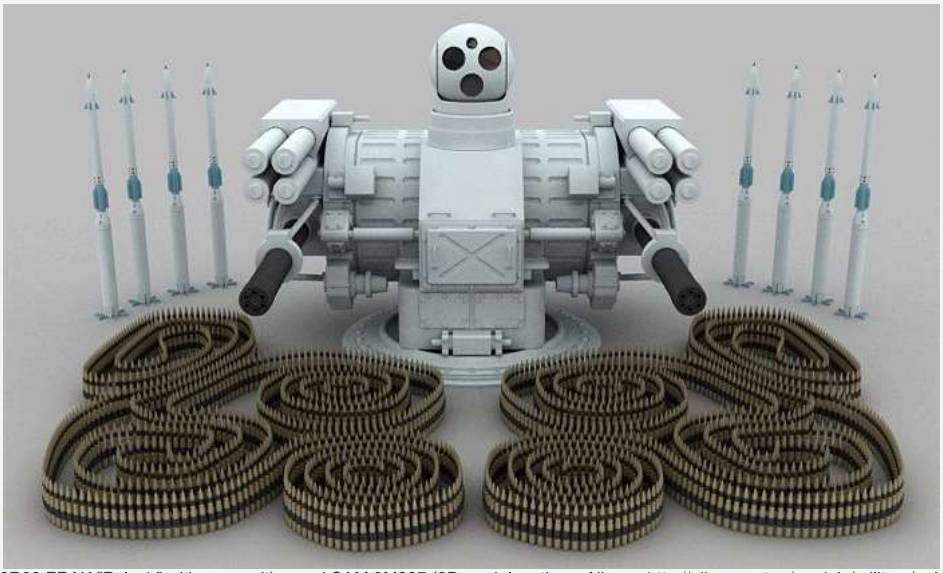
Complex 3M89 Palash / Palma

DATA AS OF 2010 (standard replenishment)
Complex 3M89 "Palash", combat module 3R89 / A-289, missile 9M337 "Sosna-R"
Complex 3M89E "Palma"
★★★★

Anti-aircraft missile and artillery system. It was developed at least since 1994 by the TsNII Tochmash (Nudelman Precision Engineering Design Bureau). The system was developed as a lighter modular replacement for the Kortik SAM system. A competing project is the Kortik-M / Kortik-MO SAM system developed by KBP. The system is an analogue of the Kortik SAM system with two six-barreled AO-18 automatic guns and is supposed to carry two packages of four SAMs in the TPK. According to 1997 data, the R & D of the promising Palma SAM system is being conducted by the Tochmash Design Bureau jointly with the Ametist Design Bureau. Production is supposed to be located at the Tulamashzavod JSC. Field tests of the Palash SAM system were conducted until the fall of 2005 at the Feodosia Proving Ground, Object 30 (Feodosia, Crimea). Upon their completion, the A-289 ZRAK combat module was transported to Shipyard No. 13 in Sevastopol, where it was installed for testing on the R-60 missile boat. The tests continued until 2007. In December 2007, the Palash ZRAK was accepted into service with the Russian Navy for trial operation. Due to the developer's failure to meet some of the requirements of the technical specifications, it is highly likely that the Kortik-M system will be accepted into service.

The 3S89 installation of the 3R89 combat module includes two six-barreled 30 mm AO-18KD machine guns with an increased muzzle velocity of the projectile (probably due to a decrease in the weight of the projectile) and two blocks of four Sosna-R 9M337 missile launchers. The maximum configuration of the Palma complex (export version) according to the project includes 4 combat modules, a circular scanning and target designation radar, and a gyrostabilization system. According to 2010 data, the 9M337 SAMs were not tested as part of the Palash SAM system - the modification of the SAM system to carry SAMs was supposed to be part of the work on the Palma SAM system for a foreign customer. The SAMs in the photographs are either photomontages or mock-ups. The Palma SAM system is the export name of the Palash SAM system. By default, the data is for the Palash SAM system.

Special thanks to Warman (http://tsushima.su/forums/) for assistance in working on the material and Allocer for the graphic work.



Combat module 3R89 ZRAK "Palash" with ammunition and SAM 9M337 (3D model, author - Allocer, http://allocer.nxt.ru/models/military/palash/palash.htm).

Author: DIMMI Created: 17.01.2009 00:49:04 Comments: 52 READ THE FULL ARTICLE

SA-NX-?

DATA AS OF 2012 (requires updating) SA-NX-?

Anti-aircraft missile system for use from submarines from a submerged position. According to Western data, as of 1987, the USSR was developing a similar SAM. The further fate of the development is already unknown as of 1997. There is still no confirmation of the existence of such a development.

Author: DIMMI Created: 17.01.2009 01:07:14 Comments: 4 READ THE FULL ARTICLE

Complex M-22 Hurricane - SA-N-7 GADFLY

DATA for 1997 (requires updating)
Complex M-22 "Uragan" / "Shtil", missiles 9M38 / 9M38M1 - SA-N-7 GADFLY

Shipborne SAM system - an analogue of the land-based SAM system SA-11 "Buk". The developer of the system is GNPO Altair, the missile was developed by MKB Fakel, the system was manufactured by the Ulyanovsk Mechanical Plant, and the missiles were manufactured by the Dolgoprudny Scientific and Production Enterprise. The prototype "Uragan" was tested together with the radar system "Fregat" in 1974-76 on the large anti-aircraft ship "Provorny" (Project 61E) - three SAM systems. Adopted into service before 1987. It is placed on ships with a displacement of 1,500 tons and more. It has a modular structure. It works with shipborne three-coordinate circular-view radars (digital or analog secondary information) or with primary radar information. It can additionally have built-in television-optical sights with the ordered number of channels. High degree of automation. It has 8 types of completeness (see table).

The Uragan air defense missile system and the control post on the destroyer Project 956 (Military parade, 1998)

Author: DIMMI Created: 17.01.2009 01:43:44 Comments: 3 READ THE FULL ARTICLE

Complex M-1 Wave (SA-N-1 GOA)

DATA FOR 2009 (standard update)
M-1 "Volna" complex, 4K90 / V-600 missile - SA-N-1A GOA
M-1M "Volna-M" complex, 4K91/V-601 missile - SA-N-1B GOA

Naval version of the S-125 (SA-3) SAM system. Development of the system was started by the USSR Council of Ministers Resolution No. 1149-592 of August 17, 1956 (on the start of work on ships of Projects 61 and 63) and No. 1190-610 of August 25, 1956 (on the start of work on ships of Projects 58 and 61). According to other sources, work on the S-125-based naval SAM system began in 1955-March 1956 on an initiative basis. The V-600 missile was developed by OKB-2 Fakel at Plant No. 293 (Khimki, Moscow Region) under the supervision of P.D. Grushin, the system was developed by NII-10 of the State Committee for Radio Electronics under the supervision of I. Ignatiev (later renamed the NII Altair). Testing of the ZIF-IR-92 experimental test bed (plant no. 7) - March-September 1959 (throw launches of V-600 missiles without a control circuit).

Anti-aircraft missile B-600 of the M-1 "Volna" complex - SA-N-1A GOA in flight, 10/26/1983 (photo by PH2 D. Beech, http://www.defenseimagery.mil).

Missile 4K91/V-601 of the M-1M "Volna-M"/SA-N-1B GOA complex in the museum of the MKB "Fakel" (Korovina V., Missiles of "Fakel". Moscow, MKB "Fakel", 2003).

Author: DIMMI Created: 17.01.2009 03:31:54 Comments: 1 READ THE FULL ARTICLE

Complex 3M87 Kortik / Chestnut (SA-N-11 GRISON)

DATA AS OF 2010 (standard replenishment)
Complex 3M87 "Kortik" / "Kashtan", missile 9M311 - CADS-N-1A (complex)SA-N-11 GRISON (missiles)
Complex 3M87-1 "Kortik-M" / "Kashtan-M", missile 9M311M, 9M311-1 - CADS-N-1 B / SA-N-11 GRISON
★★★★

Anti-aircraft missile and artillery system (ZRAK) of the Navy. R & D of the ZRAK "Kortik" began in the late 1970s at the Instrument-making Design Bureau under the supervision of A.G. Shipunov. The prototype of the "Kortik" was installed on the Project 1241.7 "Molniya" missile ship (side number 952) in 1983. It was tested in the Black Sea. It was accepted into service in 1989. It was first mentioned in the Western press in 1990-91. Production was carried out at Tula Machine-Building Plant No. 535. The main task is to protect ships with a displacement of 400-500 tons from low-flying cruise missiles, guided bombs and other air targets. The complex includes a control module (detection radar and digital control system) and from one to six 3S87 combat modules. The combat module includes 2 six-barrel 30 mm automatic cannons (type AO-18 / 6K30GSh / GSh-6-30K high-reliability machine gun, cartridge - AO-18) and 2 x 4 packages of 9M311 SAMs in the TPK. In terms of SAMs, it is an analogue of the Tunguska and / or Pantsir ground-based complex. According to media reports, the Kashtan SAM is an export version of the Kortik SAM. By default, the Kortik SAM data.

Combat module 3S87 ZRAK 3M87 "Kortik" (Kashtan - air defence gun/missile system (brochure). Rosoboronexport. 2000s).

Combat module 3S87-1 (?) ZRAK 3M87-1 "Kortik-M" on the ship "Steregushchiy" project 20380, St. Petersburg, Navy Day, 23.07.2009 (photo - Dmitry Shipulya, http://military.tomsk.ru/forum).

A pair of combat modules 3S87 ZRAK 3M87 "Kortik" on the aircraft carrier "Admiral of the Fleet of the Soviet Union Kuznetsov" project 11435, photo probably 2010 (http://china-defense.blogspot.com).

Author: DIMMI Created: 17.01.2009 01:03:02 Comments: 12 READ THE FULL ARTICLE

Complex M-11

DATA AS OF 2011 (standard replenishment)
Complex M-11 "Shtorm" / "Shkval", missile V-611 / 4K60 - SA-N-3 GOBLET
Complex "Storm-M"
Storm-N complex, V-611M/4K65 missile

Universal air defense missile system for the Navy (can also be used against surface radio-contrast targets). The system was developed by NII-10 GKRE (chief designer G.N.Volgin) in accordance with the USSR CM Resolution No. 846-382 of July 25, 1959. R & D of launchers - TsKB-34. Missiles - OKB-2 under the supervision of P.D.Grushin (later renamed MKB "Fakel"). The M-11 air defense missile system with the SM-102 launcher was initially developed for Project 1126 ships (work on the project was terminated by the USSR CM Resolution No. 565-236 of June 21, 1961). R & D of the SAM system for the Project 112-3 cruisers was resumed on July 27, 1961. In April 1962, NII-10 completed the preliminary design of the SAM system (it was revealed that it was impossible to build a control system for the SAM system based on the M-1 complex due to the requirement for versatility, interference immunity and range). In May 1962, after completing the preliminary design, 0KB-2 fundamentally changed the aerodynamic configuration and dimensions of the V-611 missile, which required a complete redesign of the SM-136 launcher and control system. The new preliminary design was approved in 1963. In September-October 1967, the industry delivered two serial SAM systems to the cruiser Moskva, Project 112-3 (the lead ship). The SAM system was accepted into service in 1969.

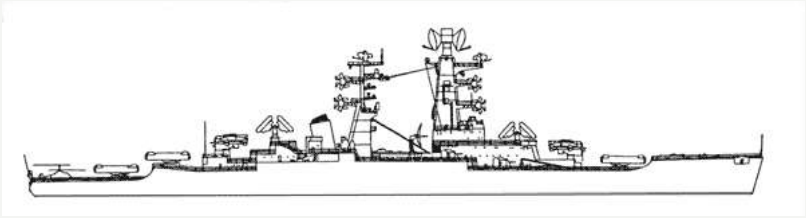
Launch of the M-11 "Shtorm" air defense missile system

Author: DIMMI Created: 17.01.2009 03:09:27 Comments: 5 READ THE FULL ARTICLE

Complex M-3

M-3 complex, V-800 missile

SAM system for the Navy. Designed by OKB-2 (chief designer P.D. Grushin, now MKB "Fakel") since 1955. Production of prototypes was carried out at Machine-Building Plant No. 293 (Khimki). Development and testing of the system were stopped in 1957. Developments on the M-3 system were used in the design of the M-31 long-range SAM system for the Navy.



Cruiser pr.64 with M-3 SAM system (Shirokorad A.B., Weapons of the domestic fleet. 1945-2000. Minsk, Harvest, 2001)

Author: DIMMI Created: 17.01.2009 03:13:49 Comments: 1 READ THE FULL ARTICLE

Complex M-31

Complex M-31

SAM system of the Navy. Designed by OKB-2 (chief designer P.D. Grushin, now MKB "Fakel") in accordance with the decree of the USSR CM No. 846-382 of July 25, 1959 for arming ships of Project 1126. The complex was created on the basis and using the developments of the M-3 complex. In addition to OKB-2, NII-20, NII-6, NII-48, NII-130, NII-504 and OKB-8 also participated in the work on the complex. The development of the complex was terminated by the decree of the USSR CM No. 565-236 of June 21, 1961, along with the development of the carrier.

Guidance - apparently radio command

Author: DIMMI Created: 22.03.2009 00:58:49 Comments: 1 READ THE FULL ARTICLE

Complex "Blade" (SA-N-9)

Complex "Blade", missile 9m330 or 9m331 - SA-N-9
Complex "Kinzhal", missile 9m330-2

Shipborne SAM. The missile used is the same as the land-based Tor SAM. The system was developed by GNPO Altair, Design Bureau of Machine-Building Plant No. 293 (Khimki) under the supervision of S. A. Fadeev. The missile was developed by OKB-2 under the supervision of P. D. Grushin (now MKB Fakel). R & D since 1975. Adopted into service in 1986. The system has a modular design and can be installed on ships with a displacement of 800 tons or more. The name "Kinzhal" was first mentioned in 1995 - SAM on the heavy aircraft-carrying cruiser " Admiral Kuznetsov " (12 launchers with 8 SAMs, ammunition load of 192 missiles).

Missile launch and antenna post of the radar of the SAM "Klinok" (Military parade)

Author: DIMMI Created: 17.01.2009 01:20:21 Comments: 4 READ THE FULL ARTICLE

Complex 4k33 "Osa-M" (SA-N-4 GECKO)

Complex 4k33 "Osa-M", missile 9m33 - SA-N-4 GECKO
In the Western press, the name of the complex is found P-20/P-21

It was created on the basis of the SA-8 Osa land-based air defense missile system. It was developed at the Antey Research and Production Association under the supervision of V. Efremov - R & D work began in accordance with the decree of the USSR Council of Ministers dated 10/27/1960. The missile was developed at the Fakel Design Bureau. It was accepted into service in 1969-1971. The missile differs from the SA-8 air defense missile system. Launcher production (

The Osa-M air defense missile system on the Project 1144 Kirov nuclear cruiser (Military parade , 1998)

Author: DIMMI Created: 17.01.2009 03:02:36 Comments: 2 READ THE FULL ARTICLE

SA-N-8

Complex "Strela-3" 9k34, missile 9m36 - SA-N-8 GREMLIN

MANPADS. The first mention of SA-N-8 in the foreign press dates back to 1987. The 9k36-1 variant of the system is also known.

Basing :

Author: DIMMI Created: 17.01.2009 01:23:39 Comments: 1 READ THE FULL ARTICLE

Sources (Navy Surface-to-Air Missiles)

General sources for this section:

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Dolgikh A., "Blade"; ; directed to the sky. // Krasnaya Zvezda. 22.01.1993.
Ilyin V., The Russian Navy on the Threshold of the 21st Century. // Equipment and Weapons. N 2 / 1997.
Lipatov M., Multi-channel anti-aircraft missile and artillery complex "Blade". // Military Parade. N 4 / 1997.

Author: DIMMI Created: 17.01.2009 03:38:02 Comments: 1 READ THE FULL ARTICLE

Complex S-300F "Reef" (SA-N-6 GRUMBLE)

S-300F "Rif" complex, 5v55 and 48n6e missiles - SA-N-6 GRUMBLE
Complex "Fort"

Shipborne version of the S-300PMU-1 air defense missile system. Developed by NPO Almaz under the supervision of B. Bunkin. Adopted into service in 1977-78. The missile was created by the Fakel Design Bureau. The name "Fort" first appeared in the press in 1996.

Guidance - by radar beam + ARLS homing head at the final stage, radar guidance system - TOP DOME (phased antenna array);

The launcher is a vertical launch drum type (6 missiles per TPU); the Fort SAM system is similar, but with 8 missiles (at least on the nuclear cruiser Pyotr Velikiy).

Basing :
Aircraft carrier Admiral Gorshkov (Baku, 32 SAMs);
Nuclear-powered missile cruisers Project 1144 of the Kirov type (2 complexes, 2 x 6 TPU, 4 ships);
Slava-class missile cruiser (8 TPUs per SAM system, the ship's ammunition complement is 64 SAMs);
Experimental large anti-submarine ship "Azov" pr.1134B type KARA - 1 launcher (built in 1 copy) - testing of the air defense missile system in the Black Sea;

Author: DIMMI Created: 17.01.2009 02:44:31 Comments: 3 READ THE FULL ARTICLE

SA-N-5 (MANPADS "Strela")

SA-N-5 (MANPADS "Strela")

Quadruple PU MANPADS type "Strela-2" / "Strela-3". Adopted into service before 1980. MANPADS was created under the leadership of Nepobedimy and Shavyrin. Data is given for MANPADS "Strela-2".

Calculation - 1 person

Guidance - IR homing system (target tracking coordinator and autopilot)

Launcher - 4 SAMs - MTU-4S and MTU-4US (US - with light guides displaying information about targets on the operator's display);

Author: DIMMI Created: 17.01.2009 02:53:52 Comments: 1 READ THE FULL ARTICLE